

Chapter 4

Operations: Integrating Environmental Considerations

“The Army faces a unique set of challenges as it adapts to a world that has changed more broadly and fundamentally than any time since the end of WW II. The Army must continue to adapt to ensure success in a rapidly changing strategic environment. Now more than ever, it serves as a strategic Army, a land force on which the United States and its allies rely to meet global challenges.”

FM 100-5, Army Operations

Integrating environmental considerations into operations is the logical progression after having effectively integrated environmental considerations in both planning (Chapter 2) and training (Chapter 3). The commander is, with increasing frequency, constrained by mission requirements that may restrict the use of much of the combat power inherent in his organization. Both commanders and staffs must understand and analyze the implications. These implications can have a significant effect on operations across the spectrum of conflict. As the commander prioritizes and analyzes the risks associated with an operation he may rank some environmental considerations as less important or more critical than other considerations. Protection of the environment may very well have to take a backseat to other tactical considerations as the commander weighs matters of force protection. However, protecting soldiers and Marines will always be high on the commander's list and environmental considerations that impact force protection and the health and safety of his personnel will cause them to become one of his highest priorities.

IMPLICATIONS FOR MILITARY FORCES

4-1. Environmental protection has several implications for military operations that affect all levels of war. When a commander orders an action that will cause environmental damage, he must determine that the military gain from the action is justifiable and in some reasonable proportion to the damage to be inflicted. This “proportionality” judgment for actions, which produce severe environmental or public health effects, requires some understanding of the impact of the effects. A commander considering a military action that would have the effect of polluting the drinking water of a region, for example, must estimate the effect of the pollution to make a judgment on the proportionality of the action to the damage it may cause. Additionally, the effects of environmental factors on the strategic end state or mission success must be identified and assessed. The law of war

specifically forbids poisoning of water sources. Commanders and their staffs must understand the strategic, operational, tactical, and ethical implications of environmental protection.

STRATEGIC IMPLICATIONS

4-2. The world's geopolitical framework will continue to undergo dramatic restructuring, accompanied by a wide array of economic, technical, societal, religious, cultural, and physical alterations. US military forces must understand these new environmental and demographic dynamics, which are becoming increasingly significant in global affairs. Strategic analysis includes environmental factors as important elements in national security considerations.

4-3. The US National Security Strategy has identified environmental threats as a primary security interest, and the public has been remarkably consistent during the last 25 years in its concern for global and local environmental degradation.

4-4. Commanders and staff officers must understand the role of these new dynamics as strategic factors that underpin the theater situation and the desired strategic end state of the operation/conflict. The theater commander may require that a strategic end state reduce environmental threats or minimize the adverse environmental impact of the military mission. This concern for the environmental end state may be particularly true for stability operations or support operations and is always a consideration as a post-hostilities cost.

4-5. The implications of large-scale environmental warfare became apparent on January 19, 1991. On this date, the Iraqis opened the valves on Kuwait's largest offshore oil terminal, threatening the main water desalinization plant in Saudi Arabia as well as the ecosystem of the Persian Gulf. This action presented the theater commander with a requirement for a tactical response. The allied response to this spill started about ten days later, but the oil continued to discharge into the Gulf until late May.

4-6. It is critical to articulate the appropriate level(s) of *military environmental protection* given the particular nature of any operation. This will not be a constant. Application of environmental protection in a given contingency will almost certainly differ from its application in the midst of close combat during a war. The higher commander's guidance is essential and is rarely initiated by commanders at the operational or tactical levels without initial guidance from the strategic level. Given the linkage between political and military considerations at the commander in chief (CINC) level, this will likely be the vital echelon for initiating and defining the driving guidance on military environmental protection for any given operation.

OPERATIONAL AND TACTICAL IMPLICATIONS

4-7. Environmental protection skills and procedures are required for all military operations. As environmental factors become more important during the next century, the military services and the unified commands will develop additional intelligence and operational capabilities and specific environmental procedures to match mission categories and constraints. In addition to practicing routine

environmental protection measures, commanders and their staffs face new environmental challenges and responsibilities including:

- Conducting humanitarian (stability or support) operations after environmental disasters.
- Integrating force health protection considerations in densely populated areas that lack operational public health measures.
- Responding to environmental terrorism or sabotage.
- Working within the limitations brought about by environmental considerations.
- Remedying adverse environmental impacts as a part of the exit strategy.

4-8. The MDMP integrates environmental considerations into mission accomplishment. Staffs, at the appropriate echelons, must identify and analyze environmental effects of military actions, as well as characteristics of the environment influencing friendly or threat operations. Staff consideration of environmental impact starts with the mission analysis and the initial IPB and continues through the orders production process.

4-9. During missions, environmental protection should be, to the extent possible, a matter of standard procedures. Both the Army and the Marine Corps have established policies on environmental protection. Basic environmental protection policy is contained in service regulations and special publications. Joint doctrine for environmental annexes to OPORDs and OPLANs is a part of the JOPES. Under JOPES, Annex L is the environmental considerations annex to the OPORD or OPLAN. When not using JOPES, Army forces conform to the guidance in FM 101-5, which directs that OPLANs/OPORDs will contain an Appendix 2 (Environmental Considerations) to Annex F (Engineer). Both formats contain similar information. Appendix B contains an example of what the FM 101-5 directed environmental considerations appendix will look like. The information contained in a JOPES document is very similar, although the format is not exactly the same.

4-10. None of the methods for decision-making in a time-constrained situation, discussed in FM 101-5, suggest that a commander leave out steps or considerations. The shortening of the process still requires the performance of all steps in the process, but in an abbreviated fashion. Commanders must always make assessments that include environmental considerations and their associated risks. Anticipation, organization, and prior preparation are the keys to success in a time-constrained situation.

ENVIRONMENTAL PROTECTION DURING MILITARY OPERATIONS

4-11. Protecting the environment is always difficult, and protecting the environment while conducting operations against a hostile force is not always possible. Military forces must deploy and operate with a minimal environmental

damage. They must initiate environmental control measures and establish appropriate protection levels without detracting from mission accomplishment.

4-12. Operations do not typically occur on an installation. As a result, leaders will need to rely on the guidance in higher headquarters orders to define the standards for environmental considerations. We have developed initial concepts base camps that have become the norm for many operations in which US forces are currently involved. Base camps are not installations, even though they may employ many of the standards and methods used on installations/bases. They are in fact, small towns that have the same need to protect their occupants (soldiers and Marines) from environmental hazards. CALL Newsletter 99-9, *Integrating Military Environmental Considerations*, provides insights on the emerging doctrine for base camp operations.

4-13. Environmental damage is an inescapable consequence of combat operations, however, the revolution in military technology has made it possible to minimize the collateral damage from legitimate military operations. It is no longer necessary to obliterate terrain to achieve the desired military effect. Wanton employment of military weaponry can produce three primary environmental effects:

UNNECESSARY IMPACTS

4-14. Unnecessary impacts are environmental damage(s) that military necessity cannot justify. These impacts are either wanton, intentional acts or negligent, unintentional acts. Iraqi forces may have committed wanton acts during the Persian Gulf War when they set Kuwaiti oil fields ablaze and fouled the Persian Gulf by releasing millions of barrels of crude oil from tanker loading facilities. These activities may have violated the Hague Convention which requires belligerents to safeguard real property and forbids its destruction unless absolutely necessary for military purposes. Some legal commentators have argued that Iraq had military reasons for these actions (oil fires to provide smoke/mask retreat and oil release to deter amphibious landings) but that the advantage gained was not proportional to the environmental damage caused.

COLLATERAL DAMAGE

4-15. Collateral damage results from military actions used to achieve strategic, operational, or tactical objectives during armed conflict. Concentration of fire or maneuver can have serious environmental consequences.

4-16. Damaging enemy targets (such as ammunition stockpiles or wastewater treatment plants) can release hazardous substances that cause unintended casualties long after the battlefield/area of operations is secured. Practicing environmental concern or restraint, should not result in decisions that increase the human cost of victory, the probability of a prolonged conflict, or the probability of an unfavorable outcome. Commanders must weigh the military value of the operation against collateral damage. They must continue to assess the risks and make informed, professional judgments. However, they must now give heightened consideration to the environmental consequences of their actions. See Chapter 2.

MODIFICATION OF THE ENVIRONMENT

4-17. This environmental effect includes using environmental modification (ENMOD) techniques on the atmosphere, oceans, or land masses and associated water systems to cause widespread, long-lasting, or severe damage to human life, natural or economic resources, or other assets.

4-18. Environmental modification (ENMOD) may include river diversion, destruction of oil wells on the sea bed, weather modification, or large-scale burning or defoliation of vegetation. The 1977 ENMOD Convention was the first international agreement to explicitly restrict using the natural environment as a tool of warfare. It prohibits military or hostile use of ENMOD techniques to damage or injure another country. See Appendix A.

ENVIRONMENTAL PROTECTION OPERATIONAL PRINCIPLES

4-19. The notional curve, Figure 4-1, depicts the significance/priority afforded environmental protection for given missions.

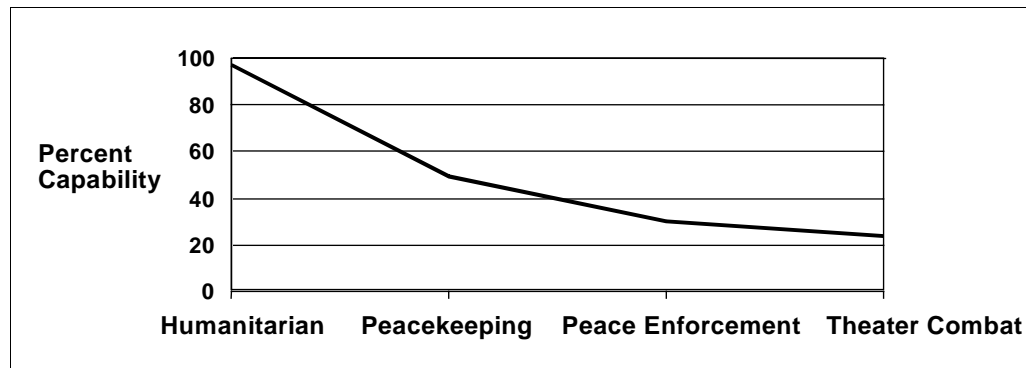


Figure 4-1. Environmental protection considerations relative to mission type

4-20. During combat, commanders will generally weigh concerns such as desired strategic end state and force protection more heavily than environmental considerations/concerns. For example, the commander measures the military value of destroying an enemy's POL distribution facility, against the potential for polluting his force's future water supplies.

4-21. However, even in combat, unit actions should not unnecessarily complicate the post-conflict outcome by creating unnecessary environmental problems. In keeping with Clausewitz's dictum that war is a political instrument, the desired strategic and operational end state should support a lasting victory. Increasingly, this end state includes environmental components.

4-22. Commanders must balance environmental protection and mission requirements. Mission parameters for the operational area, identify and quantify the time and resources devoted to environmental protection.

4-23. Environmental protection principles do not necessarily override other operational factors. They are a standard part of the MDMP, in which a

commander makes decisions based on the facts and recommendations presented by the staff in the context of mission priorities. These decisions include the three operational environmental protection principles. The sequence in which they are discussed does not reflect an order of significance or priority. The operational environmental protection principles are:

- Avoid unnecessary environmental impact, and limit collateral damage.
- Analyze environmental considerations and impacts in concert with mission requirements and force protection.
- Incorporate environmental considerations into planning procedures.

AVOID UNNECESSARY ENVIRONMENTAL IMPACTS

4-24. The first principle of environmental protection in a theater of operation is to avoid unnecessary damage and limit collateral damage. This principle is essential to meet the provisions of the requirements of Articles 54 and 55 of the Geneva Convention of 12 August 1949, which protected objects indispensable for the survival of the civilian population and the natural environment, respectively. Following this principle helps avoid political, economic, and human suffering, which complicate the desired operational end state. Adhering to this first principle requires commanders and staffs to assess regional and local environmental strengths and vulnerabilities. It also requires that units be equipped and trained to minimize adverse environmental impacts.

ANALYZE ENVIRONMENTAL CONSIDERATIONS AND IMPACTS

4-25. US forces must be capable of decisive victory, employing all means available within the laws of war to accomplish the mission in full dimensional operations. The second principle is to analyze environmental considerations/impacts in concert with mission requirements and force protection. Protecting natural and cultural resources, as with other constraints, is neither cost nor risk free, and requires judgment. The considerations NEPA and the related EO 12114, discussed in Chapter 5, are **especially critical**. Commanders make judgments in the context of METT-TC and moral imperatives; the long-term costs of the potential damage; and the political purposes of the conflict or mission. To exercise sound judgement, the commander must understand the application of risk management in the MDMP, as discussed in Chapter 2. Remember that most environmental considerations directly enhance the health and safety of soldiers and Marines. (See Chapter 7.)

INCORPORATE ENVIRONMENTAL PROTECTION INTO OPERATIONAL PLANNING

4-26. The third principle is to incorporate environmental protection considerations into operational planning procedures. The notional curve depicted in Figure 4-2, page 4-7, approximates a deploying unit's level of environmental protection management during various phases of an operation. Although all missions require environmental planning and protection as a part of the MDMP, different missions require different levels of environmental planning. During training, environmental considerations typically receive higher priority than

during operations. The integration of environmental considerations into the planning process is covered in Chapter 2.

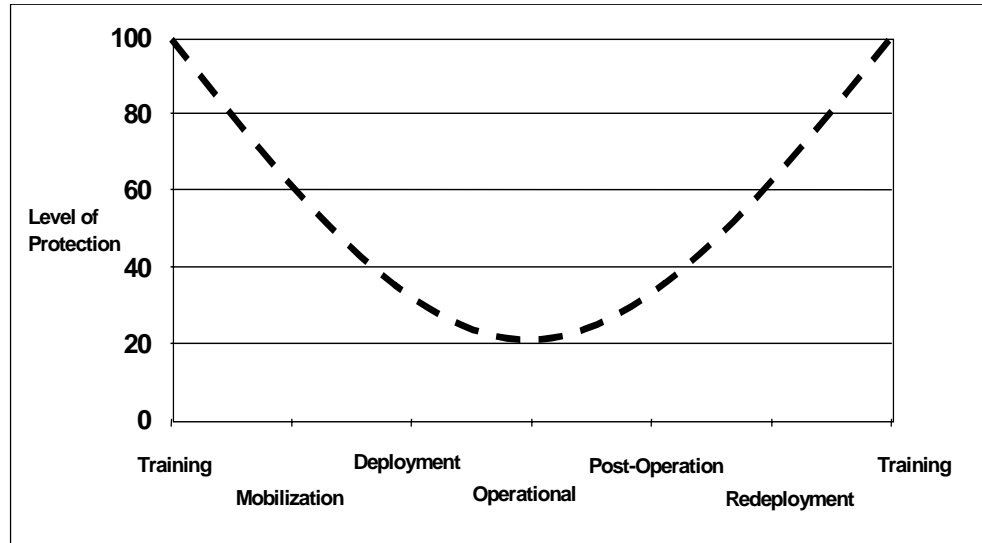


Figure 4-2. Levels of environmental consideration

4-27. During World War II, General Dwight D. Eisenhower struggled with the issue of balance as it applied to ancient monuments and priceless historical structures.

"If we have to choose between destroying a famous building and sacrificing our own men, then our men's lives count infinitely more, and buildings must go. But the choice is not always so clear-cut as that. In many cases, the monuments can be spared without detriment to operational needs. Nothing can stand against the argument of military necessity. That is an accepted principle. But the phrase 'military necessity' is sometimes used where it would be more truthful to speak of military convenience or even of personal convenience. I do not want it to cloak slackness or indifference."

General Dwight D. Eisenhower

SUMMARY

4-28. Integrating environmental considerations into operations is a requirement that commanders have accepted. As with other considerations, the importance of environmental considerations should be clearly articulated in the higher commander's guidance. Integrating environmental considerations into planning and training will increase the success of the unit during operations. Restrictions on the use of combat power for reasons of environmental protection are likely to be included in many operations.

4-29. The Army and Marine Corps have procedures that enable units to function effectively while minimizing environmental damage. These generic procedures are valid for all operations. The environmental protection principles assist the commander in weighing the importance of various environmental considerations and ensuring their soldiers and Marines are protected.